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A DEVELOPMENTAL PROJECT FOR INTERSTATE RESEARCH, .  
DEMONSTRATION, TRAINING AND PILOT PROGRAMS IN  
VOCATIONAL-TECHNICAL EDUCATION. FINAL REPORT.  
NEW YORK STATE EDUCATION DEPT., ALBANY

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DESCRIPTORS- \*RESEARCH PROJECTS, \*EDUCATIONAL RESEARCH,  
\*INTERSTATE PROGRAMS, \*VOCATIONAL EDUCATION, GEOGRAPHIC  
REGIONS, ADMINISTRATIVE ORGANIZATION, REGIONAL COOPERATION,  
REGIONAL PLANNING, NEW YORK, CONNECTICUT,

THE OBJECTIVES IN DEVELOPING THE INTERSTATE RESEARCH  
EFFORT WERE TO COOPERATIVELY DESIGN AND UNDERTAKE A SERIES OF  
STUDIES TO FIND SOLUTIONS TO MAJOR VOCATIONAL-TECHNICAL  
EDUCATION PROBLEMS CONFRONTING A REGIONAL AREA OF NEW YORK  
AND CONNECTICUT AND TO DEVELOP A FRAMEWORK FOR A REGIONAL  
APPROACH TO RESEARCH EFFORT. SIX STUDIES, COMPLETED UNDER  
INTERSTATE CONTRACT, EXPLORED THE AREAS OF OFF-FARM  
AGRICULTURAL, MULTI-OCCUPATIONAL, AND BUSINESS AND TECHNOLOGY  
PROGRAMS, TEACHER COMPETENCY EXAMINATIONS, PREDICTIVE TESTING  
FOR STUDENT SUCCESS IN THE TRADE PROGRAMS, AND HOME ECONOMICS  
OCCUPATIONAL PROGRAM EVALUATION. THE COMPLETED STUDIES,  
APPROVED BY THE U.S. OFFICE OF EDUCATION, WERE DISTRIBUTED.  
SOME OF THE FINDINGS RELEVANT TO DEVELOPING A FRAMEWORK FOR A  
REGIONAL APPROACH TO RESEARCH WERE-- (1) THERE WAS  
CONSIDERABLE ARTICULATION AMONG RESEARCH GROUPS AS A RESULT  
OF THE SIX PROJECTS, (2) THERE IS AN INCREASED AWARENESS ON  
THE PART OF RESEARCHERS AND INSTITUTIONS THAT THE STATE  
EDUCATION DEPARTMENT CAN ACT SIGNIFICANTLY IN COORDINATING  
PRIORITY RESEARCH PROJECTS WITHIN A WIDE GEOGRAPHIC AREA, (3)  
ALL STUDIES WERE CONDUCTED BY CONSULTANTS EMPLOYED AS CHIEF  
INVESTIGATORS AND RETAINED THROUGH THE FULL PERIOD OF THE  
RESEARCH AND DEVELOPMENT PROGRAM, (4) THE SUCCESSFUL  
COMPLETION OF THE STUDIES HAS PROVED THE FEASIBILITY OF  
PROJECTS BEING FUNDED AND OPERATED ACROSS STATE LINES, (5)  
COSTS WERE KEPT AT A LOW LEVEL BECAUSE THE PROGRAMS WERE  
FITTED INTO AN EXISTING ADMINISTRATIVE STRUCTURE, AND (6) THE  
INCLUSION OF POPULATION SAMPLES FROM TWO OR MORE STATES MADE  
THE FINDINGS MORE GENERALIZABLE AND APPLICABLE. (MM)

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FINAL REPORT  
Project No. 5-0043  
OEC 5-85-110

A Developmental Project for Interstate Research,  
Demonstration, Training and Pilot Programs in  
Vocational-Technical Education ,

November 30, 1966  
extended to March 31, 1967

The University of the State of New York  
The State Education Department  
Bureau of Occupational Education Research

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE  
OFFICE OF EDUCATION

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A Developmental Project for Interstate Research,  
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The research reported herein was performed pursuant to a  
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Points of view or opinions stated do not, therefore, necessarily  
represent official Office of Education positions or policy.

The University of the State of New York  
The State Education Department  
Bureau of Occupational Education Research  
Albany, New York 12224

The primary objective in developing the interstate research effort was to cooperatively design and undertake a series of studies endeavoring to find solutions to major vocational-technical education problems confronting a regional area, namely problems mutually identified by the states of New York and Connecticut. These problems are premised on two major assumptions: First, the geographic pattern of industry in the Connecticut and New York area is one of regional industrial complexes rather than limited to a statewide pattern. Thus, present educational programs organized solely on a statewide basis may fail to prepare for vocational needs and allow for the best use of available skilled personnel within a large regional area. Second, the economic and social changes in the fabric of American society are pervasive and dynamic. Vocational planners can no longer assume either stability of worker population or permanence of skill value. The location of workers in the future will be determined by the market for their skills. This implies the need to look at the large picture, the regional one, and to plan educational efforts through research on an interstate basis.

A further objective in setting up the interstate contract was to develop a framework for a regional approach to research effort. It was felt before the initiation of the interstate research project that there was little cooperative research and development effort in vocational education despite the fact that there were many researchers and institutions within the area comprising New York and Connecticut. There had been little real articulation or coordination among research efforts.

The interstate research project then was promulgated on (1) designing and undertaking studies to find solutions to problems affecting a large region and (2) developing an actual framework of research effort to solve vocational-technical problems.

Some specific problems identified in the original proposal (OE 65-224) to establish a regional research center and suggested by the Federal Review Panel as having priority were further analyzed and delimited by the State Education Departments of New York and Connecticut. They are as follows:

1. The demonstration of multi-occupational programs for training students for clusters of occupations in such fields as the maintenance or service occupations.
2. Model facilities, materials and techniques for teaching related agricultural skills for off-farm and for wage-earning home economics occupations.
3. Research project to discover and identify the most effective techniques in coordinating curriculum articulation between high schools and community colleges in selected occupational areas.

4. To survey, compend and evaluate the most valuable techniques and instruments in the selection and guidance of the vocational student differentiated by program. This implies a factor analysis of variables in predicting success in differing entry educational programs within the vocational area.

The research and development activities finally approved for funding under OE 5-85-110 included, the above problem areas, plus an additional area of study, namely an investigation into the possibility of providing trade competency examinations for teachers on a national basis (this latter study added the State of New Jersey to the original cooperating states of Connecticut and New York).

Final reports, providing some answers to the problems thought significant to the region, were completed under interstate contract No. OE 5-85-110, sent to the USOE for approval, and were further distributed locally to appropriate individuals and institutions.

A complete listing of these subcontracted studies follows:

1. A Study of the Innovation Aspects of Emerging Off-Farm Agricultural Programs at the Secondary Level and the Articulation of Such Programs With Technical College Curriculum in Agriculture  
Subcontractor - New York State College of Agriculture  
at Cornell University  
Chief Investigator - Dr. Joseph P. Bail
2. A Survey of Existing Multi-Occupational Programs of Vocational Education in New York and Certain Other States  
Subcontractor - State University of New York at Buffalo  
Chief Investigator - Dr. Gerald B. Leighbody
3. An Analysis of Selected Business and Technology Programs in High Schools and in Two-Year Colleges and Institutes of New York State With a View Toward Initiating Counterpart Offerings  
Subcontractor - Center for Urban Education  
Chief Investigator - Dr. Michael Brick
4. Feasibility of Providing Trade Competency Examinations for Teachers On a National Basis  
Subcontractor - Rutgers - The State University  
Chief Investigator - Dr. Jerald A. Griess
5. The Selection of Students for Entrance into Trade Programs in Public Secondary Vocational Schools  
Subcontracted - New York University  
Chief Investigator - Dr. John G. Miller

6. Evaluation of Secondary School Programs to Prepare Students for Wage Earning in Occupations Related to Home Economics

Subcontractor - New York State College of Home Economics  
at Cornell University

Chief Investigator - Dr. Helen Y. Nelson

Since the separate final report of each of the six studies conducted under the interstate contract is an attempt to satisfy the primary objective of the OE 5-85-110 Proposal (to find solutions to major vocational-technical education problems within a regional area), this brief, separate report will direct itself to the second objective of the proposal - namely, to develop an actual framework for a regional approach to research.

The New York State Research Coordinating Unit strongly feels that considerable articulation among research groups within a broad region has transpired as a direct result of the designing of the six projects, their subsequent undertaking, and the lengthy administrative coordination between the selected project staffs and the State Education Departments of Connecticut and New York. Further, it is felt that there is an increased awareness on the part of researchers and institutions that the State Education Department can act as a significant and convenient vehicle for coordinating priority research projects within a wide geographic area.

In the case of this interstate research project none of the research studies was conducted by the staff of either the State Education Department of New York or Connecticut. Although it had originally been envisioned that some of the projects might very well be performed by the New York State Education Department, it was finally decided to have all the research subcontracted. The rationale for subcontracting was two fold: (1) At the time of the inception of the interstate contract the Office of Research and Evaluation within the New York State Education Department was not adequately staffed to provide full-time chief investigative services for the various priority topics, but rather was in a position to offer consultative help, and (2) both the New York and Connecticut State Education Departments saw that it would be more feasible to communicate with all pertinent agencies and then subcontract with public and private institutions of higher education as well as local school systems for the carrying out of various aspects of the research proposal.

Although research projects were subcontracted rather than conducted directly by the State Education Department, the Vocational Services Office under the Director of Research in the State Education Department in Hartford, Connecticut, provided leadership in the operational phases of research in Connecticut. This can easily be observed in Dr. John Miller's final report, which notes that some of the Connecticut Education Department's staff formed the executive committee for his study of the selection of students for entrance into trade programs.

The New York Bureau of Occupational Education Research, recently expanded through Contract OE 5-85-117, also provided strong leadership in Dr. Miller's study (the director of the New York Bureau obtained the services of testing experts and with his staff met with his Connecticut counterparts on a fairly regular basis both in Albany and in Hartford in addition to making frequent long-distance phone calls to Hartford) and the other five subcontracted projects. It should be noted, however, that less direction was given to Dr. Griess's project, Feasibility of Providing Trade Competency Examination For Teachers On a National Basis, since this particular effort had been planned by the staff at Rutgers initially and was later funded through the New York State Education Department with surplus funds from the interstate contract. However, close liaison was provided by having Dr. Griess come to Albany and New York staff members attend the conferences held at Rutgers.

The subcontracting of projects allowed for close coordination of the priority studies while at the same time, it offered a good representation and use of regional resources. A cross section of resources used is as follows:

1. Graduate Programs - The State University at Buffalo as a center for Dr. Leighbody's study
2. State University Contract Colleges with Private University Affiliations - The College of Agriculture and The College of Home Economics at Cornell University, both centers for research for studies conducted by Dr. Bail and Dr. Nelson respectively
3. Two-Year Community and Agricultural and Technical Colleges - Bases of involvement for Dr. Bail's and Dr. Brick's projects
4. Private universities which have graduate programs in one or more vocational education areas - New York University as a center for Dr. Miller's study
5. Local high schools - Areas of study used by Dr. Nelson, Dr. Bail, Dr. Leighbody and Dr. Brick
6. Area center vocational schools in Connecticut - Bases of involvement for Dr. Miller's study
7. State Education Departments of Connecticut and New York - Provided initial and ongoing coordination among the subcontracted studies through the use of consulting time with chief investigators and their staffs, field visits by State Education Department staff members, and regular correspondence and telephone communication with all subcontracted project people. All necessary legal work and financial overseeing of subcontracted projects was done by a Developmental Program Coordinator housed within the New York Bureau of Occupational Education Research, and monthly and quarterly reports on the progress of the entire interstate project was submitted by the Bureau to the USOE for approval.

Cooperation of various agencies and coordination of effort can be further observed through the following selected examples:

1. Staff of the University of Buffalo worked in close cooperation with local high schools in New York, Connecticut and Ohio.
2. Directors of Area Vocational-Technical Schools acted as an advisory committee for Dr. Miller's study while guidance and curriculum men in area schools made up the planning-action committee of this same study. Trade machine shops and trade electrical shops were selected for Dr. Miller's project because of great similarity between programs in these two trade areas as they are taught in New York and Connecticut.
3. Dr. Griess's study at Rutgers brought together on two occasions at least one representative from practically every state education department in the United States for a comprehensive look into the feasibility of providing trade competency examinations for teachers on a national basis.
4. In Dr. Bail's study a master list of secondary schools conducting off-farm agricultural occupations programs was prepared in cooperation with supervisory staffs in agricultural education in New York and Connecticut. The final selection of teachers and schools was made by the project staff from among those nominated by the state supervisory staffs. This selection provided geographical distribution as well as representation of innovative teachers in each specialized program. Conferences with representatives of high schools, state education departments and technical colleges were held.
5. Dr. Brick's study of An Analysis of Selected Business and Technology Programs in High Schools and in Two-Year Colleges and Institutes of New York quite naturally brought together representatives of high schools, the New York State Education Department, two-year colleges and institutes of New York.

All the projects were conducted by consultants employed as chief investigators, retained through the full period of the research and development program to see a given project through from beginning to end. In this connection Dr. Leighbody, a former New York Commissioner of Vocational Education, although no longer a state education department staff member, analyzed the structure and nature of the multi-occupational programs through field visits.

Dr. Nelson conducted a research project in the wage-earning areas of food service and child care, based on a long history of close cooperation between the New York State Education Department's Bureau of Home Economics and Cornell in developing pilot programs and materials. As anticipated, the pilot programs to test new curriculums were not fully developed and evaluated within the original 18 month project period.

Dr. Bail and other specialists at the Cornell Contract College of Agriculture not only assisted but were primarily responsible for the development of evaluation instruments for the off-farm agricultural programs.

Dr. Miller was employed as a full-time project investigator to field test certain test batteries on populations in Connecticut. Revised tests are planned to be field-tested on New York populations later.

Both Dr. Griess and Dr. Brick were employed as chief investigators in their respective subcontracted studies and were not merely employed as consultants for the initial development stage of a project.

The New York State Research Coordinating Unit strongly feels that the resultant final reports developed by the above investigators have been the result of their careful research activities, aided by the coordinating efforts of both the New York and Connecticut Education Departments.

The successful completion of these research projects, territorially distributed over three states (Connecticut, New Jersey, and New York), has, we feel, proven the feasibility of research projects being funded and operated across state lines; therefore, the United States Office of Education is advised to consider more such interstate projects.

The joint cooperation between the several states in handling administrative details has been excellent, and costs have been kept at a relatively low level because the various programs have been fitted into an already existing administrative structure. In this connection, if a university can assume the overhead by using field research services, there may very well be a sizeable saving made for each project undertaken.

The very nature of the federal project--to develop interstate research in vocational-technical education--has prompted the individual chief investigators of most of the subcontracted studies to include population samples in two or more states. Therefore, the findings and recommendations of such studies are that much more generalizable and applicable to larger regions and not merely limited to the local or even state scene.

Although we feel that the interstate approach to researchable problems is the appropriate mode of operation when there are numerous common factors in a regional population, there are some problems that we would like to caution one about:

1. The initial lead time for subcontractual services was materially reduced because of the delay in the processing of the master federal cost-reimbursement contract, particularly since we did not readily know which internal changes had been made in our operating budget in the transfer of line items back and forth between State and Federal support. In addition, necessary legal and procedural requirements delayed the actual operation of the research and development projects. Fortunately, the initial delay in conducting the various subcontracted research projects was effectively offset by the extension of the federal grant for a three month period. The inherent delay in a cost-reimbursement

project was also partially mitigated by the granting to the New York State Education Department by the USOE and an advance allowable expenditure before the execution of the contract; this arrangement allowed us to draw against the advance with counterpart state funds.

2. Legal difficulties may develop if one state agency attempts to deal with a state agency in another state. This troublesome situation can be circumvented by channeling subcontractual arrangements through a separately incorporated educational institution which then will be in a position to freewheel.

In conclusion it is felt that as a result of this interstate contract, partial answers have been found to the major vocational-technical education problems in the New York-Connecticut area. Further, it is felt that channels of communication among research organizations, and between such organizations and the States of New York and Connecticut have been made into an effective framework for a continued regional approach to research.

## ERIC REPORT RESUME

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| RETRIEVAL TERMS<br>Vocational-technical projects conducted interstate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                             |      |      |                                                                                                 |
| IDENTIFIERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             |      |      |                                                                                                 |
| ABSTRACT<br>Purpose of interstate research project: 1) design and undertake studies which seek to find solutions to major vocational-technical education problems in the Connecticut-New York area, 2) develop an actual framework of research effort to solve vocational-technical problems. Reference is made to the six studies conducted under this project in the area of industrial arts, home economics, trade and technical. Aspects of the studies include program content, teacher competency, predictive testing for student success in trade program. Completed studies approved by USOE are available for distribution. As a result of this interstate project, increased awareness has been evoked among researchers and institutions that the State Education Department in New York can act as a significant and convenient vehicle for coordinating priority research projects within a wide geographic area. Certain legal and procedural requirements delayed the initial operation of the projects. It is suggested that a separately incorporated educational institution might be able to circumvent the subcontractual legal problems. |                             |      |      |                                                                                                 |